## CLAIMS

1	1.	A clone-brushing method of painting in an image, the method comprising:							
2		a) specifying a first world plane in the image;							
3		b) providing a source position and a destination position in the image;							
4		c) identifying a destination region in the image relative to the destination							
5	positio	n;							
6	•	d) determining a source region in the image relative to the first world plane and							
7	corresponding to the destination region;								
8	e) transforming image information of the source region relative to the first								
9	world plane to image information of the destination region; and								
0		f) copying the transformed image information to the destination region.							
1	2.	The method of claim 1, wherein the source region in the image is determined							
2	via a homography defined by the first world plane.								
1	3.	The method of claim 1, wherein step a) comprises specifying two sets of							
2	paralle	el lines.							
1	4.	The method of claim 1, wherein step e) further comprises a bilinear							
2	interpolation of image information in the source region relative to the first world								
3	plane.								
1	5.	The method of claim 1 further comprising:							
2		providing a first color sample region for the source region;							
3		providing a second sample color region for the destination region; and							
4		computing a color ratio between the first color sample region and the second							
5	color s	sample region,							
6	where	in step e) further comprises applying the color ratio to the image information of							
7	the source region								

- 1 6. The method of claim 5, wherein the color ratio is computed using Gaussian
- 2 weighted averages of the first and second sample color regions.
- 1 7. The method of claim 5, wherein the first color sample region is provided with
- 2 respect to the first world plane.
- 1 8. The method of claim 1, further comprising specifying a second world plane
- 2 and a relative scale factor in the image, wherein:
- 3 step d) comprises determining a source region in the image relative to the first
- 4 world plane and corresponding to the destination region relative to the second world
- 5 plane and the relative scale factor; and
- 6 step e) comprises transforming the image information of the source region
- 7 relative to the first world plane to image information of the destination region relative
- 8 to the second world plane and the relative scale factor.
- 1 9. The method of claim 8, wherein specifying the second world plane comprises
- 2 specifying two sets of parallel lines.
- 1 10. The method of claim 8, wherein specifying the relative scale factor comprises
- 2 specifying a line segment of unit length relative the first world plane and specifying a line
- 3 segment of unit length relative to the second world plane.
- 1 11. A clone-brushing method of painting in an image, the method comprising:
- a) providing a first color sample region;
- b) providing a second color sample region;
- c) computing a color ratio between the first color sample region and the second
- 5 color sample region;
- d) providing a source position in the image;
- 7 e) providing a destination position in the image;
- 8 f) identifying a destination region in the image relative to the destination
- 9 position;

- 10 g) determining a source region in the image corresponding to the destination 11 region; 12 h) applying the color ratio to image information of the source region and transforming the image information of the source region to image information of the 13 destination region; and 14 15 i) copying the transformed image information to the destination region. 12. 1 The method of claim 11, wherein the color ratio is computed using Gaussian weighted 2 averages of the first and second sample color regions. 1 13. A clone-brushing method of painting in an image, the method comprising: 2 a) providing a source position in the image; b) providing an initial destination position in the image; 3 4 c) determining a snapped destination position; 5 d) identifying a destination region in the image relative to the snapped 6 destination position; 7 e) determining a source region in the image corresponding to the destination 8 region; 9 f) transforming image information of the source region to image information of 10 the destination region; and 11 g) copying the transformed image information to the destination region.
  - 1 14. The method of claim 13, wherein step c) comprises searching a collection of candidate destination positions.
  - 1 15. The method of claim 14, wherein step c) further comprises applying a quality metric to
  - 2 the source position, applying the quality metric to the candidate destination positions, and
  - 3 determining a snapped destination position from the collection of candidate destination
  - 4 positions whose quality is similar to the quality of the source position.

- 1 16. The method of claim 15, wherein the quality metric is a Gaussian-weighted color
- 2 average for a region surrounding the position.
- 1 17. The method of claim 15, wherein the quality metric compensates for regional color
- 2 variation by applying a color ratio.
- 1 18. A system for clone-brushing in an image, the system comprising:
- 2 a computer comprising a processor, memory, and a display, the memory containing
- 3 instructions that, when executed by the processor, cause the computer to:
- 4 receive an input image;
- 5 interact with a user to specify a first world plane in the image;
- 6 interact with a user to provide a source position and a destination position in
- 7 the image;
- 8 interact with a user to identifying a destination region in the image relative to
- 9 the destination position;
- determine a source region in the image relative to the first world plane and
- 11 corresponding to the destination region;
- transform image information of the source region relative to the first world
- plane to image information of the destination region; and
- copy the transformed image information to the destination region.
- 1 19. The system of claim 18, wherein the instructions, when executed by the processor,
- 2 further cause the computer to interact with the user to specify a world plane by drawing two
- 3 sets of parallel lines.
- 1 20. The system of claim 18, wherein the instructions, when executed by the
- 2 processor, further cause the computer to interact with the user to:
- 3 provide a first color sample region for the source region;
- provide a second sample color region for the destination region; and
- 5 compute a color ratio between the first color sample region and the second
- 6 color sample region,

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